



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,932	03/30/2001	Dennis Boyd	26422/25020	8175

21888 7590 01/15/2003

THOMPSON COBURN, LLP
ONE FIRSTAR PLAZA
SUITE 3500
ST LOUIS, MO 63101

EXAMINER

HO, THOMAS Y

ART UNIT

PAPER NUMBER

3677

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/821,932	BOYD, DENNIS
	Examiner	Art Unit
	Thomas Y Ho	3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.

- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 November 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,3-24 and 26-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1, 3-23, 24, 26-29 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5, 13-17, 21, 23-24, and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd USPN5107557 in view of Saltness USPN3251075.

As to claim 1, Boyd discloses:

- A first inflatable compartment 13 having a length and width, when inflated, sufficient to support a human body.
- Said compartment having a top, bottom, and sides.
- Said first compartment being composed of at least two layers of vinyl (col.1, ln.65; col.2, ln.50).
- One layer of vinyl forming the top of the compartment and the second forming the bottom.
- A second inflatable compartment 23 disposed on the top of the first inflatable compartment and secured thereto at least along a portion of the first inflatable compartment at a point spaced inwardly from the sides of said first inflatable compartment (fig.13).
- Said second compartment extending generally the length and width of the top of the first compartment.

Art Unit: 3677

- Said second compartment being of a size, when inflated, sufficient to support a human body.
- Said second compartment being composed of at least two layers of vinyl (col.2, ln.60-62) distinct from the two layers of vinyl forming the first compartment.
- Said second compartment being inflatable to give the top of the air mattress a soft, pillow-like appearance and feel (col.3, ln.10-17).
- Said first compartment and said second compartment are secured together adjacent one another.

Boyd fails to disclose or suggest:

- Said compartments are secured together adjacent a fluid communication channel connecting the first and second compartments.

Saltness discloses first and second inflatable compartments sealed together on opposing sides of a diaphragm 40 having a plurality of fluid communication channels 41 formed therein (col.2, ln.69-72; col.3, ln.1-5), and the purpose of the diaphragm to prevent the side and end panels from blowing outwardly beyond desired shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a fluid communication channel, as taught by Saltness, to provide a means for maintaining a desired shape upon inflation.

As to claim 3, Boyd discloses a mattress wherein:

- The bottom layer of said second compartment 23 is secured to the top of the upper layer of the first compartment 13 (fig.13).

As to claim 4, Boyd fails to disclose or suggest the following limitations:

- The second compartment has a soft, non-vinyl fabric secured to the top thereof.

Saltness discloses first and second inflatable compartments, with both compartments covered by an expansible fabric covering (col.2, ln.10-15) for comfort, and to provide a covering that can expand with the article. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartment disclosed by Boyd to have a fabric covering, as taught by Saltness, to increase comfort.

As to claim 5, Boyd fails to disclose or suggest:

- Said first and second compartments are in fluid communication with each other.

Saltness discloses first and second inflatable compartments sealed together on opposing sides of a diaphragm having a plurality of fluid communication channels 41 formed therein (col.2, ln.69-72; col.3, ln.1-5), and the purpose of the diaphragm to prevent the side and end panels from blowing outwardly beyond desired shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a fluid communication channel, as taught by Saltness, to provide a means for maintaining a desired shape upon inflation.

As to claim 13, Boyd discloses a mattress wherein:

- The first compartment (13) and the second compartment (23) are sealed together at a point recessed from the periphery of the first compartment (13), thereby permitting limited relative movement of the second compartment (23) with respect to the first compartment (13) along the edge of the mattress (fig.13).

As to claim 14, Boyd discloses a mattress wherein:

- The seal is recessed approximately one inch (fig.13).

As to claim 15, Boyd discloses a mattress wherein:

- The vinyl layers of the second compartment (23) are connected together by a first vinyl strip extending between the layers along the periphery of the second compartment (23). It is clearly shown that a vinyl strip acts as a connecting sidewall to the two layers that define the second compartment (23) (fig.1).
- The vinyl layers of the first compartment (13) are connected together by a second vinyl strip extending between the layers along the periphery of the first compartment (13).

As to claim 16, Boyd fails to disclose or suggest the following limitations:

- The only access to the interior of the first and second compartments for inflation of both compartments is through a single valve.

Saltness discloses a single valve is used to inflate both compartments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a single valve, as taught by Saltness, to reduce the number of valves needed to inflate the article, thus decreasing the cost.

As to claim 17, Boyd fails to disclose or suggest the following limitations:

- The single valve is disposed in a wall of the first compartment.

Saltness discloses a single valve that is disposed on the wall of a first compartment is used to inflate both compartments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first compartment disclosed by Boyd to have a

Art Unit: 3677

single valve on the wall of the first compartment, as taught by Saltness, to reduce the number of valves needed to inflate the article, thus decreasing the cost.

As to claim 21, Boyd discloses a mattress wherein:

- The second compartment 23 has a single peripheral seam (fig.13).

As to claim 23, Boyd discloses a mattress wherein:

- The two layers of the second compartment 23 are secured together at a plurality of discontinuous positions (col.4, ln.43-47).

As to claim 24, Boyd discloses a mattress comprising:

- A first inflatable compartment 13 having sides with a length and a width and defining a periphery.
- A second inflatable compartment 23 extending generally the length and width of the periphery.
- A perimeter seal connecting said first inflatable compartment to said second inflatable compartment.
- Wherein said perimeter seal is spaced inwardly from the periphery (fig.13).
- At least one additional seal connecting said first inflatable compartment to said second inflatable compartment.

Boyd fails to disclose or suggest:

- Said additional seal includes a fluid communication channel between said first inflatable compartment and said second inflatable compartment.

Saltness discloses first and second inflatable compartments sealed together on opposing sides of a diaphragm having a plurality of fluid communication channels 41 formed therein

(col.2, ln.69-72; col.3, ln.1-5), and the purpose of the diaphragm to prevent the side and end panels from blowing outwardly beyond desired shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a fluid communication channel, as taught by Saltness, to provide a means for maintaining a desired shape upon inflation.

As to claim 26, Boyd discloses a mattress comprising:

- A first inflatable compartment 13 having sides with a length and a width and defining a periphery.
- A second inflatable compartment 23 extending generally the length and width of the periphery.
- Said second inflatable compartment comprising a pair of layers joined together by a plurality of discontinuous seals (col.4, ln.39-47).
- A perimeter seal connecting said first inflatable compartment to said second inflatable compartment.
- Wherein said perimeter seal is spaced a distance from the periphery to give the air mattress a soft, pillow-like appearance and feel (col.3, ln.9-17) when said second inflatable compartment is inflated, and to permit limited relative movement of the second compartment with respect to the first compartment.
- At least one additional seal connecting said first inflatable compartment to said second inflatable compartment.

Boyd fails to disclose or suggest the following limitations:

- Said additional seal includes a fluid communication channel between said first inflatable compartment and said second inflatable compartment.

Saltness discloses first and second inflatable compartments sealed together on opposing sides of a diaphragm having a plurality of fluid communication channels 41 formed therein (col.2, ln.69-72; col.3, ln.1-5), and the purpose of the diaphragm to prevent the side and end panels from blowing outwardly beyond desired shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a fluid communication channel, as taught by Saltness, to provide a means for maintaining a desired shape upon inflation.

As to claim 27, Boyd discloses:

- A first inflatable compartment 13 having a top, a bottom, and sides.
- Said first compartment being composed of at least two layers of material.
- One layer of material forming the top of the first compartment and the second layer of material forming the bottom of the first compartment.
- A second inflatable compartment 23 having a top and a bottom.
- The second compartment being composed of at least two layers of material.
- One layer forming the top of the second compartment.
- The second layer of material forming the bottom of the second compartment.
- The second compartment being positioned above the first compartment.
- A perimeter seal (fig.13) connecting the top of the first compartment to the bottom of the second compartment.

- The perimeter seal being spaced inwardly from the sides of the first compartment.
- A plurality of seal portions 27A in the second compartment (fig. 13).
- The seal portion joining the top of the second compartment to the bottom of the second compartment in a manner such that air within the second compartment may flow around each of the seal portions (col.3, ln.1-6, ln.48-55).

Boyd fails to disclose or suggest:

- A fluid communication channel providing fluid communication between the first compartment and the second compartment.

Saltness discloses first and second inflatable compartments sealed together on opposing sides of a diaphragm having a plurality of fluid communication channels 41 formed therein (col.2, ln.69-72; col.3, ln.1-5), and the purpose of the diaphragm to prevent the side and end panels from blowing outwardly beyond desired shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have a fluid communication channel, as taught by Saltness, to provide a means for maintaining a desired shape upon inflation.

As to claim 28, Boyd discloses:

- Each seal portion 27A constitutes a single discontinuous seal.

As to claim 29, Boyd discloses:

- Each discontinuous seal is spaced from each of the other discontinuous seals (fig.13).

Claims 6-12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd USPN5107557 in view of Saltness USPN3251075, and further in view of Wolfe USPN5598593.

As to claim 6, Boyd fails to disclose or suggest:

Art Unit: 3677

- The vinyl layers composing the second compartment are secured together by a plurality of ribs extending between the top of the second compartment and the bottom of the second compartment.

Wolfe discloses an inflatable air bed having a second compartment 20 composed of two layers, with the layers secured together by a plurality of ribs 34 extending between the top and bottom surfaces (col.3, ln.45-62) to limit outward expansion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second compartment disclosed by Boyd to have ribs in the second compartment, as taught by Wolfe, to limit outward expansion.

As to claim 7, Boyd fails to disclose or suggest:

- The ribs extend transversely across the second compartment, said second compartment having channels for flow of air around or through the ribs.

Wolfe discloses an inflatable air bed having a second compartment 20 composed of two layers, with the layers secured together by a plurality of transverse ribs 34 extending between the top and bottom surfaces (col.3, ln.45-62), and having channels for air flow around the ribs, to limit outward expansion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second compartment disclosed by Boyd to have ribs in the second compartment, as taught by Wolfe, to limit outward expansion.

As to claim 8, Boyd fails to disclose or suggest:

- The first and second compartments are substantially free to move with respect to each other except at the periphery thereof.

Wolfe discloses an inflatable air bed wherein the first and second compartments (12, 20) are only attached at the periphery thereof (col.5, ln.5-10) so that each layer can be independently adjusted (col.1, ln.40-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second compartments disclosed by Boyd to have both compartments free to move with respect to one another, as taught by Wolfe, so each layer can be independently adjusted.

As to claim 9, Boyd fails to disclose or suggest:

- The first compartment has ribs extending between the layers of vinyl making up the first compartment.
- Wherein the second compartment has ribs extending between the layers of vinyl making up the second compartment.

Wolfe discloses an inflatable air bed having a first compartment 12 with ribs 30 extending between the top and bottom layers (col.3, ln.29-35), as well as a second compartment 20 composed of two layers, with the layers secured together by a plurality of ribs 34 extending between the top and bottom surfaces (col.3, ln.45-62) to limit outward expansion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compartments disclosed by Boyd to have ribs, as taught by Wolfe, to limit outward expansion.

As to claim 10, Boyd fails to disclose or suggest:

- The ribs of the first compartment are substantially taller than the ribs of the second compartment.

Wolfe discloses an inflatable air bed having a first compartment 12 with ribs 30 as well as a second compartment 20 with ribs 34 to limit outward expansion. Furthermore, owing to the

Art Unit: 3677

fact that the first compartment 12 is twice as tall as the second compartment 20, the first compartment ribs are substantially taller than the ribs of the second compartment (col.6, ln.30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second compartments to have ribs, as taught by Wolfe, to limit outward expansion.

As to claim 11, Boyd fails to disclose or suggest:

- The ribs of the first compartment are at least twenty-five percent taller than the ribs of the second compartment.

Wolfe discloses an inflatable air bed having a first compartment 12 with ribs 30 as well as a second compartment 20 with ribs 34 to limit outward expansion. Furthermore, owing to the fact that the first compartment is twice as tall as the second compartment, the first compartment ribs more than twenty-five percent taller the ribs of the second compartment (col.6, ln.30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second compartments to have ribs, as taught by Wolfe, to limit outward expansion.

As to claim 12, Boyd fails to disclose or suggest:

- The ribs of the first and second compartments are composed of vinyl.

Wolfe discloses an inflatable air bed wherein the ribs 30/34 of the first and second compartments 12/20 are composed of vinyl (col.4, ln.45-47), and are used to limit outward expansion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second compartments to have vinyl ribs, as taught by Wolfe, to limit outward expansion.

As to claim 22, Boyd fails to disclose or suggest:

- The second compartment has at least two seams.

Wolfe discloses an inflatable air bed having a second compartment 20 having at least two seams to provide vertical height between the top and bottom layers for the insertion of ribs 34 to limit outward expansion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mattress disclosed by Boyd to have a second compartment with at least two seams, as taught by Wolfe, to make room for beams that limit outward expansion.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd USPN5107557 in view of Saltness USPN3251075, and further in view of Chung USPN6332760.

As to claim 18, Boyd fails to disclose or suggest:

- A pump for inflating and/or deflating the first and second compartments.

Chung discloses a pump 14 for inflating and/or deflating an inflatable product without manual exertion of energy by the user. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mattress disclosed by Boyd to include a pump, as taught by Chung, to inflate the mattress using electricity rather than manually.

As to claim 19, Boyd fails to disclose or suggest:

- The pump is permanently attached to a valve disposed in a wall of the first or second compartment.

Chung discloses a pump 14 for inflating and/or deflating an inflatable product without manual exertion of energy by the user. The pump 14 is detachable, but could be considered permanently attached if the user never utilizes the detaching feature. It would have been obvious

Art Unit: 3677

to one of ordinary skill in the art at the time the invention was made to modify the mattress disclosed by Boyd to include a pump, as taught by Chung, to inflate the mattress using electricity rather than manually, and to leave the pump attached, to prevent losing the pump.

As to claim 20, Boyd fails to disclose or suggest the following limitations:

- The pump is removably attachable to a valve disposed in a wall of the first or second compartment.

Chung discloses a detachable pump 14 (col.2, ln.53-65) for inflating and/or deflating an inflatable product without manual exertion of energy by the user. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mattress disclosed by Boyd to include a pump, as taught by Chung, to inflate the mattress using electricity rather than manually.

Response to Arguments

Applicant's arguments filed 11/13/02 have been fully considered but they are not persuasive.

Applicant argues (Amdt.B, pg 6) "modification would destroy the intent and purpose of the invention of Boyd. Specifically, the inclusion of a fluid communication channel between the air cushion and the water bladder would negate the benefits identified above. The suggested modification would allow water to flow from the water bladder into the air cushion where the water would cause a user to suffer heat loss by conduction to the water. The suggested modification would also defeat the purpose of easily adjusting the firmness and comfort of the mattress." However, the Examiner notes that in Boyd (fig.5; fig.7) the air cushion defined by top surface 23 is filled with water in zone 51. Thus Boyd does disclose the desirability of having

water in both chambers. Furthermore, the separation into zones allows for easy adjustment of "feel" and firmness (col.3, ln.30-47). The fluid communication channels disclosed by Saltness would allow easy transfer of water into the second inflatable mattress from the first inflatable mattress, and would not destroy the utility of the Boyd apparatus when the Saltness reference is used for modification.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Y. Ho whose email address is thomas.ho@uspto.gov and telephone number is (703) 305-4556. The examiner can normally be reached on M-F 9:30AM-6:30PM.

Art Unit: 3677

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (703) 306-4115. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9327.

TYH

January 13, 2003

j.j.swann

J. J. SWANN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600